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May 3, 1973

A PROGRESS REPORT ON

THE ENVIRONMENTAL STUDIES PROGRAM

We are continuing to develop our research capability in the areas of concern to the community, as stated by the Citizens Advisory Committee a number of months ago.

More specifically we have made considerable progress in the areas of:

1. Water Pollution and Estaurine Water Quality
2. Air Pollution
3. Problems of Uplands Drainage and Usage and the Preservation of Natural Areas and Resources.

We have demonstrated a capability up to this point, and we hope to increase that capability, in the area of water pollution and estaurine water quality. This is particularly true since we have recently received a Selby Foundation Fellowship in Marine Biology, which has been awarded to Dr. William Tiffany.

Dr. Tiffany will receive an annual salary of $14,000.00 plus benefits for the period June 1, 1973 - May 31, 1973. The Selby Foundation has approved the allocation of approximately $5,000.00 for equipment that will be essential for Dr. Tiffany's research. The Selby Foundation is presently considering a request for an additional $13,000.00 for equipment that will be used by the ESP for marine research.

Specific studies in progress in the area of water pollution and estaurine water quality include:

1. Comparative checklist of indicator organisms in Sarasota Bay

2. Ecological base-line data collection and evaluation in Sarasota Bay (4 student teams):

   A. Beer Can Island

   B. Buttonwood Harbour

   C. New College Grass-flats

   D. Pansy Bayou

We have recently submitted a proposal to the Mobil Oil Foundation entitled the "Development of an Integrated Environmental Impact Statement For Dredge and Fill Operations". The abstract of this proposal, which follows, outlines the goals and objectives of this study:

> To increase the supply of waterfront property, to facilitate navigation, and to provide fill material for construction, many channels, canals and boat basins have been dredged through shallow areas of the estuaries of southwest Florida. A great diversity of dredged and filled areas of various types and ages have been created as a result of this activity.
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> The process of dredge and fill involves the removal of bottom sediments by a hydraulic dredge and the subsequent placement of the "spoil" material (through a sluice pipe) in a previously designated area. The net effects are as mentioned above. Gross effects on a short term basis have been identified as: destruction of benthic floral and faunal associations, disturbance of the sediment profile, a diminution of primary productivity. An analysis of the long term effects has yet to be performed, except for indications by Odum (1960) that primary productivity increases in subsequent seasons.

Restrictions, having only recently been placed on dredge and fill operations (1957), quickly evolved into an unofficial moratorium (1970) on the approval of dredge and fill permits. However, the desire by land developers to utilize this technique has not subsided.

The objective of this study is to resolve this conflict by developing an integrated environmental impact statement for dredge and fill operations. Some of the aspects of the problem to be considered are:

1. Analysis of the long term impact of dredge and fill operations using certain characteristics of the benthos as indices of the permanency of damage.
2. Review of past studies and methods of analyzing the impact of dredge and fill operations.
3. A review of the history and extent of dredge and fill operations.
4. An assessment of the methods of and restrictions on dredge and fill operations.

From these analyses we hope to complete the picture of the physical environmental impact of dredge and fill operations, and to provide an understandable, practical methodology that will facilitate adequate review of proposed dredge and fill operations.

We have received a rather complete collection of marine invertebrates and vertebrates from the National Marine Fisheries Service St. Petersburg Laboratory. This will be of invaluable assistance in accumulating ecological baseline data from Tampa Bay to Charlotte Harbor.

In the area of air pollution, a very exciting and unique opportunity has just come up. The College has received a letter from two scientists who are presently at the Ledgemont Laboratory (Kennecott Copper Corporation) at Lexington, Massachusetts. These two physicists are in an unusual situation, which could conceivably result in the acquisition, without cost, by an institution of a new research instrumentation facility, that is valued at approximately a quarter of a million dollars.

They would like to affiliate with an institution of higher education and bring this instrumentation with them. This particular piece of equipment would be ideal and is one of the most sophisticated in the country for monitoring air pollutants and most of the components that would occur in either fresh and/or salt water.

After making an initial inquiry, we received a letter that described some of the uses to which this facility could be applied:

"We feel that the potential research capabilities of our facility are exceptionally high in the areas of the environment and ecological sciences. We can monitor, for example, the totality of components in the gas and liquid phases in an unusually complete manner, and have the analysis permanently stored on magnetic discs or tape for detailed evaluation and comparison at any time. Additionally, we are also well skilled in the development of sophisticated monitoring instrumentation and data handling techniques."

This equipment basically consists of a gas chromatograph, a mass spectrophotometer and a computer. It will be invaluable in our environmental studies. I have submitted a description of this equipment to individuals in the Natural Science Division. The replies we have received thus far indicate this facility

will be an invaluable research and educational tool for the College.

Because this appeared to be a very exciting possibility, we have discussed the situation with Mr. David Lindsay whose support enabled us to bring these scientists to Sarasota in order to discuss their future relationship with our program.

A number of meetings and seminars were held with the College community and with individuals interested in the Counties' environmental needs. The response from both groups was overwhelmingly positive and suggests that this exciting possibility may become reality in the very near future.

We have also made considerable progress in the area that includes the preservation of natural areas and resources. The Environmental Studies Program has recently submitted a proposal to do a natural inventory and evaluation study of a large parcel of land in the Eastern portion of Sarasota County. We were fortunate in having the proposal accepted for this $25,000 study to be conducted over a four month period.

In addition, the Program, through the Citizens Advisory Committee, has been very actively supporting the Red Flag Charrette. We have not only found considerable support for this project within the community, but there appears to be a great deal of interest among the students who have inquired about possible modes of participation within the Red Flag Charrette process.

Many students have expressed an interest in the Environmental Studies Program, and are participating with us in some of our studies. Dr. Tiffany and I will be making a presentation to the student body on the Program and we will discuss student participation and involvement in present and future projects.

This brief report does not describe all of our activities. More detailed information is available.

Generally speaking, the enthusiasm and support for ESP at the College and in the community has been overwhelmingly positive.